Enterprise Access Point for IoT

HyperWeave is a standards-based, IP-to-the-edge, 6LoWPAN wireless access point designed to bring full IP connectivity to low power IoT devices. Targeted at the enterprise sector, it is ready for deployment as standard infrastructure in existing IT networks. HyperWeave is as straightforward to deploy as an enterprise WiFi router.

Background

Until now, IoT edge devices have connected to the Internet using a wide range of incompatible protocols. This has created a lack of service, gateway and device interoperability, uncertainty about long term deployments and has required specialised training for IT staff.

For the first time, with 6LoWPAN there now exists a set of open standards which make it practical to support Internet Protocol right to the edge of connected device networks – especially the constrained wireless environment typical of the Internet-of-Things.

True IP, Internet Protocol, brings huge benefits to the enterprise. Standard infrastructure can be installed once and used to support a wide range of applications, protocols and use-cases. Existing IP network infrastructure and tools can be used to provide monitoring, firewalling and access control.

IP provides a generic base for all your applications for today and the future. Whether your devices use CoAP, MQTT, HTTP or another application level protocol, HyperWeave provides them a stable infrastructure to build on.

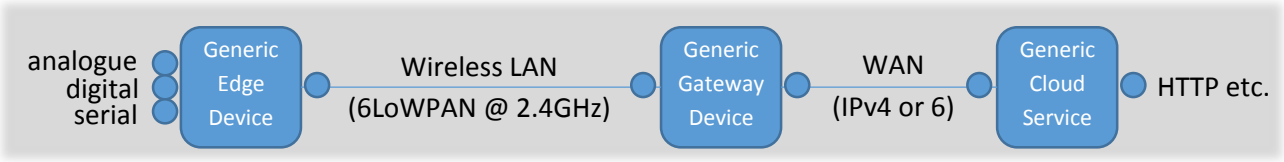
1248's access points allow the deployment, management and use of low cost, resource-constrained wireless devices using the standards and tools which run today's Internet. 1248 supports the wide adoption of IP-to-the-edge to accelerate the arrival of the Internet of Things – a view shared with many major ecosystem players such as ARM, Cisco, Google, Nest and Samsung.

Product

HyperWeave is available as a developer kit containing the following:

- Enterprise Access Point
- PoE injector and universal mains supply
- 3 x end node 6LoWPAN development boards
- User Manual

Our modular, customisable architecture enables you to deploy in the right configuration for your needs. If you are interested in extending your device to include standards-based IoT communications, get in touch.



About 1248

1248 designs and supplies scalable, deployable Enterprise IoT Infrastructure, based on the significant experience of its founders (1 million+ end-customers per product in areas as diverse as mobile phones, IPTV set-top-boxes and Connected Home). Further information and more White Papers at http://1248.io.

Technical Details

HyperWeave is a single, common gateway for multiple 6LoWPAN IoT edge device types, supporting a combination of emerging and mature networking standards:

- 6LoWPAN over 802.15.4 at 2.4GHz
- CoAP
- IPv6 and IPv4
- DNS64 and NAT64
- LDAP
- PoE (IEEE 802.3at)
- VLAN support (IEEE 802.1Q)

HyperWeave is designed for corporate environments and has the remote management, access control and security features expected of an enterprise class device.

Radio Interface

6LoWPAN over 802.15.4 at 2.4GHz with mesh networking.

HyperWeave is hardware compatible with the Thread 6LoWPAN standard and is capable of supporting it via a software upgrade.

Ethernet Interface

IPv4 and IPv6: the use of DNS64 and NAT64 allow it to be deployed in today's IPv4 networks, whilst supporting IPv6 to the edge devices. External IPv6 connections are also supported.

Power over Ethernet (IEEE 802.3at) is supported to enable easy, one-cable deployment.

Remote Management

HyperWeave access points can be managed remotely via three different interfaces.

- Web interface
  A simple easy-to-use interface allowing access to all configuration parameters
- Web API
  A REST API allowing access to all configuration parameters
- SSH command line interface
  For scripting and automation, all parameters can also be set from a standard Linux shell

Access to all configuration interfaces is controllable by LDAP authentication.

Security

HyperWeave supports 802.15.4 link-layer security keys. These are configurable through the web and command line interfaces.

MAC address whitelisting and blacklisting can be used to accept or deny access to known end devices.

Logging

A rich logging set enables easy diagnosis of a variety of connection issues including access failure, host lookup failures and packet drops. Logging can be configured to store them locally on the Access Point or streamed to a server.

For more details, please contact sales@1248.io